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The Toledo Chemistry Placement Examination was administered to the 163 students enrolling in general inorganic chemistry during the academic year 1967-68 in an effort to develop a way to screen enrolling students and reduce the large percentage of students doing poorly in the course. The product moment correlation between the Toledo scores and the final semester grades for these students was .42, significant at the .01 level. Regression equations were then used to establish guidelines for using this test in predicting success in chemistry. On the basis of these guidelines it can be said that, if a student receives a score greater than 54 on the Toledo exam, it is likely he will receive a C or better in the chemistry course; if his score is from 46 to 54, his chances of receiving a C or better are equal to his chances of receiving a D or F; if he scores below 46, it is likely he will receive a D or F. As these are tentative guidelines, it is recommended that the score on the Toledo test be used only for student information until more adequate guidelines are established with continued use of the test. (MC)

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FRESNO CITY COLLEGE
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A REPORT ON THE USE OF THE TOLEDO CHEMISTRY PLACEMENT EXAMINATION AT FRESNO CITY COLLEGE

At the beginning of each semester during the academic year 1967-68 the Toledo Chemistry Placement Examination was administered to all students who had enrolled in Chemistry 1A (General Inorganic Chemistry, 5 units) at Fresno City College. It was hoped that this test would yield results which could help screen potential Chemistry 1A students more adequately than in the past when a relatively large percentage of students were doing poorly in the course.

A total of 163 students took the test (97 in the fall semester and 66 in the spring semester) and stayed in Chemistry 1A long enough to receive a grade of A, B, C, D, F, WF or W. The test scores obtained on the Toledo Chemistry Placement Examination were compared to the final semester grade received in the course for each of the 163 students.

Correlation between test and semester grade. The product-moment method of calculating the coefficient of correlation between the Toledo test and semester grade in Chemistry 1A was used. The null-hypothesis that no relationship existed between the core on the Toledo test when administered prior to the student taking Chemistry 1A and his final semester grade was established. The null hypothesis was disproved in as much as a coefficient of correlation of .42 was obtained and the application of the t-test

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yielded a significance at the .01 level. CONCLUSION: Based upon the performance of the 163 students in Chemistry 1A during the academic year 1967-68, there is a positive correlation between the Toledo test and final semester grade. This correlation is not a strong correlation but it does indicate a low-medium positive relationship. We can be almost certain that this correlation is not the result of chance but is a significant correlation.

Comparison of scores to semester grades. Tabulation of semester grades received according to Toledo test scores are shown in the second and third columns of the table below. The fourth and fifth columns indicate the prevalence of withdrawal from Chemistry 1A with a grade of W.

Score on Toledo Chem. Pl. Exam	No. Students Scoring at this Level	No. Stud. Receiving Grade of C, B or A	Percent Receiving C, B or A	No. Stud. Dropped with Grade of W	Percent Dropped with Grade of W
70 & Above	11	10	91%	0	0
60	12	9	75%	2	17%
50 - 59	33	18	55%	8	24%
40 - 49	57	17	30%	16	28%
30 - 39	37	15	41%	15	41%
29 % under	14	1	7%	4	29%

CONCLUSION: The chances of a student receiving a grade of "C" or better decrease as the score on the Toledo test decreases. The probability that the student will drop out of Chemistry 1A increases as the score on the Toledo test decreases.

Predicting probability of success and failure. By utilizing

"regression equations" it was possible to establish some tentative guidelines for predicting whether or not a student is likely to succeed or not succeed in Chemistry IA if the Toledo test result is known for that student. We find that based upon the results of Toledo test scores and Chemistry 1A semester grades a student scoring 54.69 or above has a good chance of getting a C or better. Conversely a student who scores 45.92 or below has a fair chance of getting a D or F. The actual performance of students in Chemistry 1A during the academic year 1967-68 was as follows:

Of the 34 who scored 55 or above on the Toledo, the semester grades and number of students receiving them were

A	3
B	12
C	11
D	2
F	1
W	5

Summarized, we see that 76% got a C or better, 9% got a D or F, and 15% dropped.

Of the 93 students who scored 45 or below on the Toledo, the semester grades and number of students receiving them were

A	0
B	9
C	21
D	25
F	8
W	28
WF	1
Inc.	1

Summarized, we see that 32% got a C or better, 37% got a D or F, and 30% dropped.

Recommendations: It is recommended that pre-testing of Chemistry 1A students be continued in the same manner as during 1967-68 so that more adequate guidelines can be established. However, because of the findings as explained in this paper, tentative cut-off scores could be established for the academic year 1968-69. It is recommended that the student be informed of his score on the Toledo test and what that score means. It is recommended that the student not be removed from a Chemistry 1A class on the basis of the Toledo test score. He may be shown his "chances of receiving a C or better", etc.

TENTATIVE GUIDELINES FOR 1968-69

Toledo Score	Interpretation
55 and above	Chances of receiving a "C" or better are average.
54-46	Chances of receiving a "D" or "F" are about the same as those for getting a "C" or better. Also there is an equal probability that the student will drop out.
45 & below	Will probably receive a "D" or "F"

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